



SENATOR RUNNER'S WEEK IN REVIEW

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Water Storage

After some of the wettest years on record, water supplies may not be the foremost issue on the minds of many Californians. But the task of supplying enough water to a growing population, both in terms of developing new supplies and delivering them where they are needed, still vexes water policymakers. The failure to achieve those tasks will be sharply felt by many during the next drought period.

While there has been a philosophical – some would say “religious” – disagreement over whether new water supplies are needed, a study last year by the Public Policy Institute of California (PPIC) delivered alarming news about future water needs. PPIC found California’s water needs will jump 40% in the next 25 years. While those figures represent a very high-end scenario and likely over-estimate future water use, there is no question that, at this point, the water balance is likely to get worse rather than better. The Department of Water Resources’ (DWR) own projections show California’s average annual water supply will be 2.4 million acre-feet (MAF) short by 2020 and up to 6.2 MAF short in critically-dry years. (An acre-foot of water is enough to supply two households for one year; by comparison, the latter figure is more water than is stored behind Shasta Dam and more than California’s allotment from the Colorado River.)

While groundwater supplies have grown in recent years, construction of surface storage is grinding to a halt. Even after the hard lessons of the 1987-1992 drought, only two major surface storage projects have been built: Diamond Valley in Riverside County and Los Vaqueros in Contra Costa County. Together they total 900,000 acre-feet, an amount that represents less than 3% of California’s existing developed water supply. At the same time, the amount of water available for public consumption is under constant threat from environmental problems and competing uses or concerns. A few examples include the restrictions on pumping in the San Francisco Bay Delta, the loss of 800,000 acre-feet of supply to the Central Valley Project Improvement Act, and a pending legal settlement that could result in the loss of 100,000+ acre-feet annually for water users in the San Joaquin Valley’s Friant Division.

Prospects for Major Surface Water Storage

News of the Week

[Equalization Dollars For Schools](#)

[Schwarzenegger Calls Running of LAUSD “Horrible”](#)

[Critics Say Mayor is Stifling Debate on School Reform Bill](#)

[Consumer Lawsuit Scope Defined](#)

[Another Sexually Violent Predator Being Released](#)

[AV Press: School Exit Exam Shouldn't Make a Quick Exit](#)

[More Firefighters in Phelan, Wrightwood, Lucerne Valley](#)

Despite claims that all of the good dam sites are occupied, there is no shortage of proposals for new surface storage under study. Five years ago, the CalFED Record of Decision identified five projects with the potential to provide major new water storage for water users and environmental purposes. Two of those proposals would expand existing dams and two others – Sites Reservoir and the Upper San Joaquin River – have been targeted by DWR as the likeliest candidates for new dams.

Sites Reservoir (1.8 MAF, \$2.4 billion): This project is the north-of-Delta option for surface water storage, located just off the Sacramento River in Colusa County. One of the main benefits of Sites is the ability not only to store water, but to collect high winter flows and release them during summer months, flushing out the salt and poor water quality in the Delta. In that way, a reservoir at Sites could provide a significant solution to the problems at the Delta pumps.

Upper San Joaquin River/Temperance Flat (1.3 MAF, \$1 billion): One of the options for a dam at Temperance Flat, in the foothills east of Fresno, would more than double the capacity of Friant Dam downstream. Like Sites, there are many advantages at this location beyond water storage. The heavy rains of this past April showed how ineffective the smallish Friant Dam is for controlling floodwaters, as a 1-in-10-year event simply overwhelmed the dam and the San Joaquin River bypass system downstream. A bigger dam above Friant could increase flood control significantly, depending upon its operation. A larger dam can also keep the river flowing year-round, as envisioned in the San Joaquin River settlement talks, and improve water quality in the Delta.

Shasta Dam Raise (636,000 AF, \$500 million): The U.S. Bureau of Reclamation has found a dam raise of 18.5 feet to be “highly cost efficient,” and indeed it is probably the most efficient of all five projects in terms of new surface storage for the dollar. However, state agencies are barred from participating in this promising project beyond the study phase. A 1989 law designating the McCloud River, a Lake Shasta tributary, as a Wild and Scenic River prevents any state funds from being used for design or construction of a Shasta Dam expansion.

Los Vaqueros (440,000 AF, \$1.3 billion): Another expansion proposal--Contra Costa Water District built this 100,000 acre-foot facility in 1998 and already has plans for a major expansion that has received a nod from local voters. This project primarily benefits water users in the Bay Area.

Groundwater Storage

As mentioned, most new water storage in the last generation has been underground. According to the Bay Delta Authority, nearly 1 million acre-feet of groundwater storage has been added during the life of that program. The California Water Plan notes that another 9 MAF may be available for development, bringing an additional 500,000 acre-feet in annual water deliveries. Prices for groundwater compare favorably to that of surface water from new dam projects: an average of \$110/acre-foot for groundwater versus almost \$400/acre-foot for Temperance Flat.

Regardless of the price for water from these projects, they are all very competitive in urban areas, where marginal prices for an acre-foot of water typically range from \$500 to \$1,000. Moreover, California needs both groundwater and surface water to meet its water supply needs, as the two are interlinked from a management perspective. Surface storage capacity is needed to trap excess flows for storage underground, while groundwater facilities help maximize the usefulness of dams and can be tapped during dry years – a management system known in the water community as “conjunctive use.”

Conclusion

While some groups hope that California can sufficiently conserve or otherwise micromanage the use of existing water supplies to meet the demand, the evidence shows that demand continues to grow while supplies diminish. Still, many of the projects discussed above await financial support from potential users. In fact, since the state and federal governments last built major storage in California, even large urban water agencies have rarely stepped up to build new storage. Project and mitigation costs, competing uses, and unforeseeable regulatory limits on dam operations can make these projects risky for water agencies to back.

Because of this problem, part of the purpose of the Governor's water bond proposal (SB 1166/Aanestad) was to provide an assurance to water agencies that the "public trust" benefits of a reservoir project – generally non-water related uses of a dam that can limit its benefit to water users, such as fishery or ecosystem restoration – would be financed to some extent by the State. Without the potential for state participation, many new surface water storage projects may lack financial backers in the water-user community, in spite of the pressing need for more water. Most of the studies on these projects are due to be completed in the next couple years. Given both the current supply shortage and the multiple water-related benefits stemming from surface storage, lawmakers should not wait much longer to offer financial support.

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